

ABSTRACT

A decoding apparatus is disclosed that is capable of reducing the calculation amount and memory capacity and preventing deterioration of characteristics at high decoding rates. In this decoding apparatus, a transition probability calculation section (201) calculates the transition probability from systematic bit Y1, parity bit Y2 and a priori value La1, and a forward probability calculation section (202) divides a data sequence into a plurality of windows and calculates the forward probability per window. A memory (204) stores a backward probability at a predetermined time calculated in previous iterative decoding and a backward probability calculation section (203) divides a data sequence into a plurality of windows and calculates the backward probability per window using the backward probability stored in the memory (204) as the initial value in iterative decoding of this time. A likelihood calculation section (205) calculates likelihood information using the calculated forward probability and backward probability.